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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,599	02/06/2002	Ricky Merle Peterson	ROC920010319US1	8298

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EXAMINER	
TRUONG, CAMQUY	
ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/068,599	PETERSON, RICKY MERLE	
	Examiner	Art Unit	
	Camquy Truong	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 10-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/18/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-7, 10-14 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornick (U.S. Patent 6,912,533 B1) in view of Barabash et al. (U.S. Patent 5,293,620).

4. Hornick and Barabash were cited in the last office action.

5. As to claims 1, 4 and 7, Hornick teaches the invention substantially as claimed including: an apparatus comprising:

a plurality of processors (processor 402A-402N, col. 8, lines 31-33), each processor having the capability of executing a plurality of threads (col. 8, lines 33-36) ;

a memory coupled to the plurality of processors (memory 408, col. 8, line 24); and

a thread dispatch mechanism residing in the memory and executed by at least one of the plurality of processors (col. 10, lines 60-63; col. 11, lines 16-24), the thread dispatch mechanism determining which of the plurality of processors is busy processing a thread but can accept an new thread (col.12, lines 40-42), and which of the plurality of processors cannot accept the new thread (col. 12, lines 23-26 and lines 43-45) since it is working on a maximum number of threads the processor can execute (the relative busy conditions of the involved computer system may be determined based on a variety factor, for example, the processing load (amount of work assigned) on each computer system, col. 12, lines 44-45) .

6. Hornick does not explicitly teach the thread dispatch mechanism determining which of the plurality of processors are idle, and the thread dispatch mechanism dispatching a new thread to an idle processor, if one exists. However, Barabash teaches the thread dispatch mechanism determining which of the plurality of processors are idle (col. 6, lines 57-60; col. 8, lines 19-21), and the thread dispatch mechanism dispatching a new thread to an idle processor, if one exists (col. 6, lines 61-64; col. 8, lines 45-49; col. 17, lines 48-52).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hornick and BaraBash because determining which of the plurality of processors are idle, and the thread dispatch mechanism dispatching a new thread to an idle processor, it one exists would

dynamically distribute tasks to all available processors to minimize the amount of idle processor time and maximum use of all processors in the system (col. 1, lines 27-48).

8. As to claim 7, it is rejected for the same reason as claims 1, 4 and 7. In addition, Hornick teaches computer-readable signal bearing media bearing the thread dispatch mechanism (col. 17, lines 10-22).

9. As to claims 2, 5 and 10, Hornick teaches if none of the plurality of processors is idle and if at least one of the pluralities of processors can accept an new thread, the thread dispatch mechanism dispatches the new thread to one of the plurality of processors that can accept an new thread (col. 11, lines 26-49).

10. As to claims 3, 6 and 11, Hornick teaches if all of the plurality of processors cannot accept an new thread, the thread dispatch mechanism waits for one of the plurality of processors to complete processing a thread, thereby becoming a processor that can accept an new thread, and then dispatches the thread to the processor that can accept an new thread (Fig. 8).

11. As to claim 12-14, Barabash teaches all processors are made busy with a first thread before dispatching a second thread to any processor (col. 6, line 40 – col. 7, line14).

Response to the argument

12. Applicant arguments filed on 10/16/06 had been considered but they are not persuasive. In the remarks applicant argued (1) the cited art does not teach or suggest that the processor have hardware support to execute a plurality of threads. (2) the cited art does not teach or suggest to differentiate between a processor that is idle, one that is busy but can accept a new thread, and one that cannot accept a new thread. (3) the cited section does not teach or suggest anything about a maximum number of threads the processor can execute. (4) Executing multiple tasks from a queue is not the same as dispatching multiple threads to a multi-threaded processor (5) The cited sections of Hornick do not teach or suggest if none of the plurality of processors is idle and if at least one of the plurality of processors can accept new thread, the thread dispatch mechanism dispatches the new thread to one of the plurality of processors that can accept a new thread. (6) hornick and Barabash do not teach or suggest to wait until a processor can accept a new thread.

13. Examiner respectfully traverses Applicant's remarks:

As to point (1), Hornick teaches there are pluralities of data mining agents (602A-602N). These data agent are software component that are present on one or more computer system such as servers (hardware) (col. 10, lines 58-62). Each data agent which presents servers (hardware) includes a plurality of processes/threads such as peek at queue process and operation thread (Fig. 6, col. 11, lines 16-18).

As to point (2), Barabash teaches it determines whether any of the processor busy flags are clear (the processor become idle) (col. 6, lines 57-60). In addition, Hornick teaches determining whether the local computer system is the first computer system that will become available (idle) for additional processing (additional request associated with threads) (col. 12, lines 64-67). Determining whether the computer system upon which the associated data agents resides is currently busy and thus unavailable accept additional processing (col. 12, lines 23-26). Determining whether the local computer system is more or less busy than other computer systems that might process the request. If other computer systems are more busy, then it may be determined, that the local computer system is relatively not busy (the local computer system is not busy compare to other computer system but, in fact, the local computer is busy but accepting additional processing). Conversely, if other computer systems are less busy, then it may be determined, that the local computer system is relatively busy (the local computer system is busy that can't accept additional processing) (col. 12, lines 35-48).

As to point (3), the relative busy conditions of the involved computer system may be determined base on a variety factor, for example, the processing load (amount of work assigned), the request queue associate allocated threads (col. 12, lines 45-50).

As to point (4), Hornick teaches dequeue requests from the queue to data agent (computer) for performing (col. 11, lines 40-49). However, Hornick does not explicitly teach dispatching multiple threads to a multi-threaded processor. However, Barabash

teaches dispatching multiple tasks (multiple threads) from queue to plurality of processors (col. 6, lines 61-65; col. 8, lines 45-49; col. 13, lines 1-5).

As to point (5), Determining whether the local computer system is more or less busy than other computer systems that might process the request. If other computer systems are more busy, then it may be determined, that the local computer system is relatively not busy (the local computer system is not busy compare to other computer system but, in fact, the local computer is busy but accepting additional processing). Conversely, if other computer systems are less busy, then it may be determined, that the local computer system is relatively busy (the local computer system is busy that can't accept additional processing) (col. 12, lines 35-48).

As to point (6), determining whether the local computer system is the first computer system that will become available for additional processing (col. 12, lines 65-67).

14. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camquy Truong whose telephone number is (571) 272-3773. The examiner can normally be reached on 8AM – 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3756.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

May 29, 2007

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